

# FlashPoints



Hazardous Materials Transportation Safety Newsletter Issue #9

Winter 2001-2002



## Upcoming TSI Classes in Oklahoma City:

### Transportation of Hazmat

**-Basic** Jan 7-11, Mar 4-8, May 13-17, Sep 16-20**-Recurrent (Refresher)** Mar 19-21, Jun 11-13

### Air Transportation of Hazmat (ICAO/IATA)

Mar 19-21, June 11-13, Sep 17-19

### IMDG Code

Feb 26-Mar 1, Aug 13-16

### Instructor Training

May 7-9, Sep 4-6

### Cargo Tanks

Jan 14-18, Aug 19-23

### Performance-Oriented Packaging

Feb 20-22, June 25-27

### Haz Wastes & Substances

Feb 26-28

### Radioactive Materials

May 7-10

### Infectious Substances

Jan 23-24, Apr 24-25, Jul 24-25

### Cylinders

Apr 10-12, Jul 30-Aug 1

### Explosives

Jan 15-18

### Customized and on-site training also available

For more information, or to receive a training brochure, please contact the TSI Hazardous Materials Division. Contact information is below.

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To be added/removed from the **FlashPoints** e-mailing list please contact: [Hazmat@tsi.jccbi.gov](mailto:Hazmat@tsi.jccbi.gov)

## European Road Rules

### Applying the "ADR" to US Exports

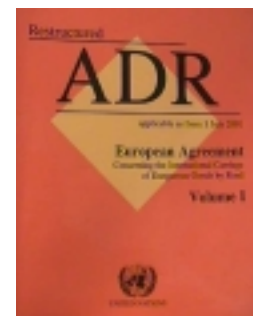
When we in the US send dangerous goods to a European destination we generally concentrate on the international regulations that will be used to get the goods to Europe—the IMDG Code for ocean shipments and the ICAO/IATA rules for air shipments. But what about transport after arrival in Europe? When the goods leave the seaport or airport they will likely be on the highway and subject to another set of regulations—the ADR.

"Accord European Relatif au Transport International des Marchandises Dangereuses par Route" is the French name for this regulation and the source of the initials "ADR". In English the ADR is known as the "European Agree-

ment Concerning the International Carriage of Dangerous Goods by Road."

Though European in

name, this is actually a United Nations publication. This means members of the *UN Committee of Experts on the Transport of Dangerous Goods*—which includes representatives from the United States and Canada—participate in the development of these regulations. This is important because not only does the ADR affect North American exports, it is also a breeding ground for dangerous



*ADR, continued on page 2*

## Shipping Anthrax (and suspicious powders)

Currently the US is undergoing somewhat of an anthrax crisis. This means that many anthrax samples and many more "suspected" anthrax samples are being transported in commerce to laboratories.

When we talk about shipping anthrax we are actually talking about shipping the bacterium that causes the human and animal disease of anthrax. This bacterium, *bacillus anthracis*, is considered to be an infectious substance (hazard class 6.2) by the US DOT. It must be sent under the proper shipping name "*Infectious substance, affecting humans*". Because this name is preceded by a "G" in the Hazardous Materials Table in 49 CFR (or followed by a star in the ICAO/IATA airline regulations) the technical name for the material—*bacillus anthracis*—must be added in parentheses on the shipping paper and on the

package. The identification number is UN 2814. There is no packing group, so a basic description on a shipping paper would read: "**Infectious substance, affecting humans (*bacillus anthracis*), 6.2, UN 2814**".

Suspicious powders being sent to a lab for anthrax testing must be shipped as if they *are* anthrax (the diagnostic specimen exceptions do not apply to suspicious powders). Blood being sent for anthrax testing may take the diagnostic specimen exceptions found in 49 CFR 173.134 (i.e., not regulated by the DOT). However, ICAO/IATA rules—which most airlines follow—require specimens suspected of being infectious to be treated as infectious substances instead of diagnostic specimens.

When hazardous materials are being shipped for testing to see if they do meet a certain hazard class (such as "Infectious Substances"), they may be sent under a ten-

*Shipping Anthrax, continued on page 3*

*ADR, continued from page 1*

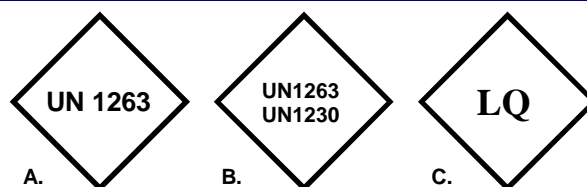
goods regulations that may later find their way into the UN Recommendations, IMDG Code, and ICAO Technical Instructions.

So what does a North American exporter of dangerous goods need to do to make sure they are in compliance with the ADR? Not much. Like other regulations, the ADR is based on the UN Recommendations, so shipments following the ICAO/IMO regulations will likely be in compliance with the ADR, with some small exceptions. Chief among these exceptions is that the ADR requires the shipping paper basic description to start with the UN# instead of the proper shipping name. The ADR also has different placarding thresholds and marking rules for cargo transport units. This doesn't mean that shipping papers and placarding that are not in compliance with the ADR have to be altered before the shipment hits the road in Europe. ADR section 1.1.4.2 allows most shipments prepared under the ICAO Technical Instructions or IMDG Code to continue traveling via the highways of Europe without having to apply any additional ADR requirements that may apply. Some shippers, however, report they have had trouble when applying this rule to the "environmentally hazardous substance liquid/solid" shipping names and to those materials with an ICAO "ID" number instead of a UN number.

When shipments that are not in full compliance with the ADR travel under the exception in section 1.1.4.2, the shipping paper must be annotated, "**Carriage in accordance with 1.1.4.2**". Also, freight containers, portable tanks, and other cargo transport units must still comply with the ADR's orange plate marking provisions found in section 5.3.2. These are somewhat similar to the regulations for UN numbers on orange panels that are found in 49 CFR and the IMDG Code but there is a lot more to it in the ADR. The orange plate requirements will likely be taken care of by the freight agent and/or the initial road carrier in Europe.

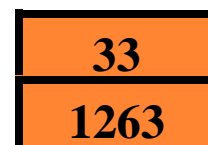
In some cases, exporters may find it to their advantage to apply ADR requirements to their products before shipping them to Europe. Some of the limited quantity provisions in Chapter 3.4 of the ADR are similar to the "consumer commodity" provisions of 49 CFR, (i.e., if the packaging and marking requirements are followed, most of the rest of the ADR do not apply). Following ADR limited quantity provisions could save North American exporters money on the last leg of the journey.

The ADR limited quantity marking has the same shape and dimensions as a hazard label. This would be a violation of the DOT and ICAO prohibitions against packages bearing markings and labels that can be confused with their own hazard la-



Examples of the ADR limited quantity markings. Example A is for one material. Examples B and C are the options when two or more materials are packed together in the same outer package. The style shown in examples A and B may be adopted by the UN Recommendations soon and as a result, would then be acceptable under 49 CFR 172.401(c).

Examples of the ADR orange plate markings. The top plate displays the "hazard identification number" and the bottom plate displays the UN number.



bels. However, the IMDG Code does not currently have this rule, and when exporting from the US, ocean shippers and carriers need only apply the marking and labeling provisions (and prohibitions) of the IMDG Code as permitted and limited by 49 CFR section 171.12.\*

Want more info? See the ADR for yourself—and great news—the ADR, though copyrighted, can be downloaded from the United Nations dangerous goods web site at:

<http://www.unece.org/trans/danger/publi/adr/adr2001/English/ContentsE.html> Two sets of "corrigendum" (corrections) to the 2001 edition of the ADR are also available to download.

The web site states that the downloaded files may not display all the text correctly and that only the printed paper publication or CD of the ADR should be used when complying with the regulations. (We found that the files in Adobe PDF format looked fine.) Here are some sections of the ADR recommended for further reading:

Subject	ADR Section
■ Use of ICAO & IMDG Code	1.1.4.2
■ Limited Quantities	3.4
■ Orange plates	5.3.2
■ Shipping papers under 1.1.4.2	5.4.1.1.7

Those who do a lot of business in Europe may want to download all nine parts of the entire ADR two-volume set. But it may be easier just to buy the books or CD which may be ordered from the UN web site or from some of the major vendors of hazmat transportation products here in the US. \$110 is the going rate for the books or the CD.

The ADR is comprised of nine parts (chapters). Parts 1–7 are in Annex A and Parts 8 & 9, which are directed towards the actual road carrier operations, are in Annex B. Despite already being split into two annexes, the actual books are split into two equal-sized volumes. Parts 1–3 are in Volume 1 and Parts 4–9 are in Volume 2. ♦

\*Note: A DOT letter of clarification addresses this issue on page 4.



Please have a happy and safe holiday season.

Please use seatbelts or child seats for all passengers.

Please use designated drivers when drinking.

—Your friends at TSI

**Shipping Anthrax**, continued from page 1

tative "sample" description. (The sample rules changed this summer. For details, see 49 CFR paragraph 172.101(c)(11) in the Oct. 2001 ed. of 49 CFR or the HM-215D Final Rule). Unlike the US DOT, ICAO/IATA do not allow the sample rule to be used for infectious substances. Therefore, most airlines will likely not accept the "sample" description of an infectious substance.

The packaging requirements for infectious substances can be found in 49 CFR section 173.196 (or ICAO/IATA packing instruction 602). Normal UN packaging won't do. An example of required package markings and labels are shown below.

Recently, the DOT issued two emergency exemptions to transport items contaminated with anthrax in bulk packagings (DOT-E-12861 and DOT-E-12864). These exemptions are only for motor vehicle transportation and are available at <http://hazmat.dot.gov> under the "Exemptions & Approvals" section of the web site.

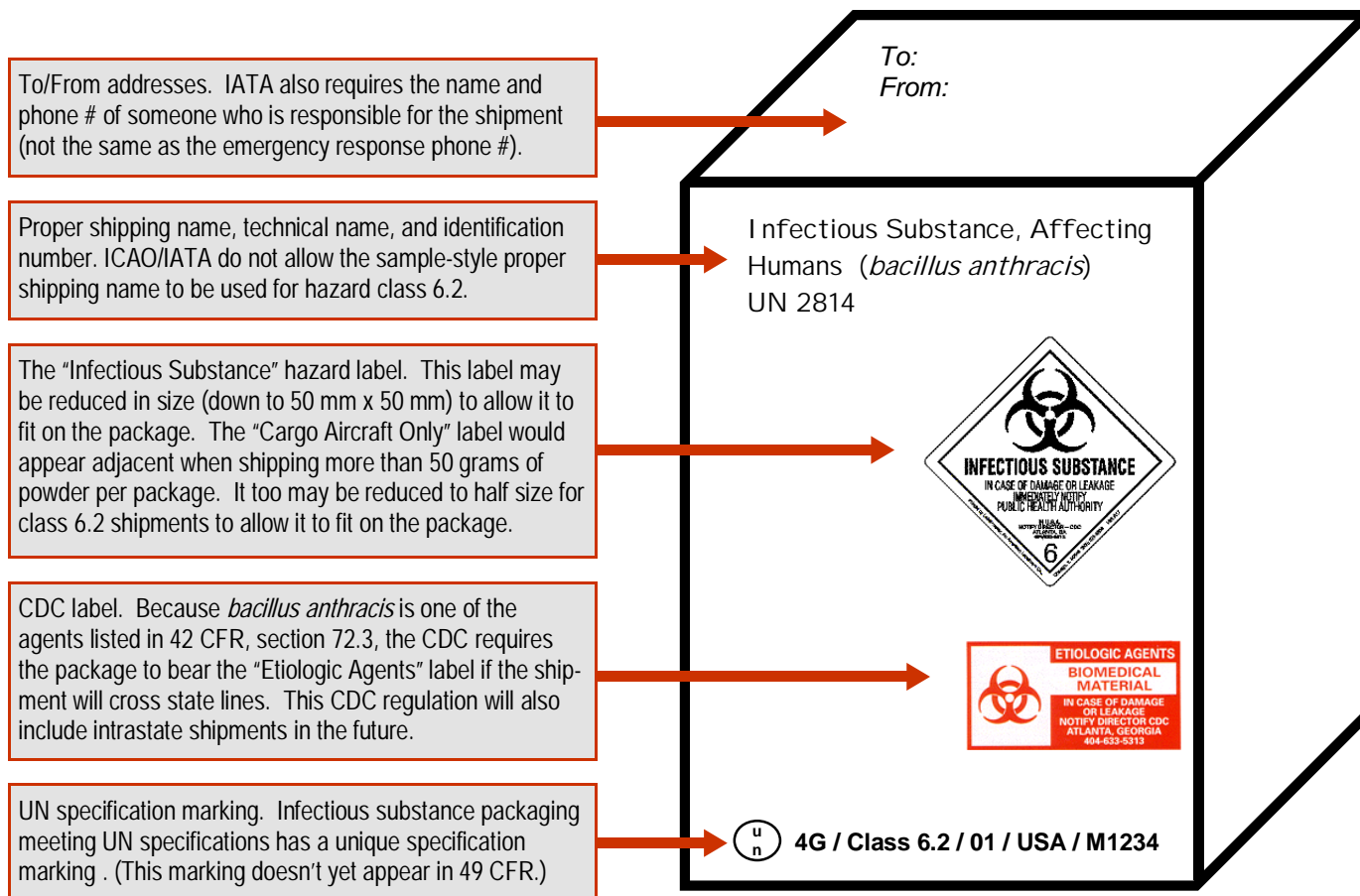
In the US, the CDC (Centers for Disease Control and Prevention) also regulates shipments of *bacillus anthracis* under 42 CFR, Part 72. Packaging requirements are similar to DOT/ICAO/IATA requirements but the CDC has its own "Etiologic Agents" label that is used in addition to—not in lieu of—the

"Infectious Substance" label used by the DOT and ICAO/IATA (see diagram below). These CDC rules also apply to diagnostic specimens being sent for anthrax testing.

Those who prepare shipments of infectious substances must also adhere to the OSHA "Bloodborne Pathogens" standards of 29 CFR 1910.1030. The OSHA "Biohazard" label need not be applied to a package already bearing the "Infectious Substance" label if the primary or secondary packagings inside the package bear the Biohazard label/markings. OSHA does not except diagnostic specimens from its regulations.

Persons who participate in the transportation (packing, labeling, marking, documentation, loading, carriage, etc.) of infectious substances must be trained per DOT requirements (see 49 CFR, Part 172, Subpart H). The applicable DOT, ICAO/IATA, CDC, and OSHA regulations for shipping infectious substances, diagnostic specimens, and regulated medical waste are all covered in TSI's 2-day *Transportation of Infectious Substances* course. Also covered are the applicable US Postal Service regulations for shipping infectious substances (yes, you can legally send anthrax through the mail when it is properly packaged, labeled, marked, and documented). This course can also be given as a one-day seminar for specific groups who wish to sponsor a class at their site. ♦

**Below is a diagram of a package containing a powder suspected of being anthrax. In this example, the package is being sent via commercial aircraft, so the applicable ICAO and IATA requirements are also applied.**





## 171.12 Cancels Out DOT Labeling Prohibitions



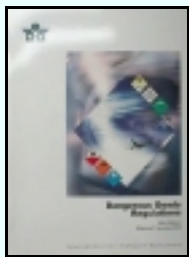
### A DOT Clarification

49 CFR paragraph 172.401(b) states "No person may offer for transportation and no carrier may transport a package bearing any marking or label which by its color, design, or shape could be confused with or conflict with a label prescribed by this part." So if a marking or label used for some other purpose on a hazmat package looks like a DOT hazard label there could be a violation. 172.401(c) goes on to say that this rule does not apply to packages marked in compliance with the UN Recommendations, IMDG Code, ICAO Technical Instructions, or TDG Regulations. So, what happens when the limited quantity marking from the ADR—which looks like a DOT hazard label—appears on a package being transported in the US? At first glance this is a violation since the ADR is not one of the regulations listed in the exception granted by 172.401(c). But, if this package bears an ADR marking, then it is likely being imported or exported, perhaps using the IMDG Code. This changes everything. A DOT letter of clarification from February addresses this issue:

*"In previous correspondence we have stated that we consider the ADR markings to be confusing and prohibited from use by 49 CFR §172.401... However the IMDG Code does not include a prohibition consistent with §172.401. Furthermore, §171.12 authorizes shipments which are made in accordance with the IMDG Code to be transported within the United States subject to the limitations of §171.12. As the IMDG Code does not specifically prohibit the use of the labels authorized by the ADR, packages which are transported in accordance with the IMDG Code may be marked with the current ADR markings and are acceptable for transportation within the United States."*

So, since 49 CFR 171.12 allows the shipper and carrier to operate under the labeling provisions of the IMDG Code, 49 CFR 172.401 never comes into the picture and there is no violation. (Remember, there has to be some water transport included in the trip in order to apply 171.12) Readers should be aware that this logic cannot be applied to international air shipments since the ICAO Technical Instructions do have a provision similar to 172.401(b).

See this and other clarification letters at: <http://hazmat.dot.gov> under the *Rules & Regulations* section. ♦



### IATA DGR 2002

The 2002 edition of the IATA Dangerous Goods Regulations (DGR) is now available. Because the DGR are based on the ICAO Technical Instructions (which will not be updated for another year) there are not many changes from last year's DGR which did include the latest ICAO requirements. The 2002 edition has a white cover and is nearly identical in appearance to the 2001 edition. Changes from last year include some clarification in certain text, new state & operator variations, and the dropping of the hourglass and calendar symbols which were necessary to identify which regs started or expired last July 1st. There is also a new IATA requirement for combination packagings containing liquids where no absorbent material is required. These packagings *should* now include a liner to contain leaks if the outer packaging itself is not leakproof. ♦



### IMDG Code Update

Dec 31, 2001, marks the end of the transition period from the old 4-volume IMDG Code to the new 2-volume code (2000 edition). A fourth set of errata is now available at <http://www.imo.org>. We are still awaiting word on when a CD of the IMDG Code—containing all corrections—will be made available free to those who purchased the books (see *FlashPoints*, Fall '01). Students taking TSI's IMDG Code course receive and keep the new 2-volume IMDG Code. ♦



## Season's Greetings

**US DOT Transportation Safety Institute  
Hazardous Materials Division**